CLAIMS

We claim:

1. A DNA molecule useful for generating a recombinant adenoviral vector comprising an Ad5 5'ITR with packaging signal and an Ad5 3'ITR, a reporter or effector gene cassette and Ad5 sequence.

2. A DNA molecule of claim 1 wherein said reporter gene cassette is the CMV-EGFP cassette in the opposite orientation as said Ad5 5'ITR.

3. A DNA molecule of claim 1 wherein said reporter gene cassette is the CMV-EGFP cassette in the same orientation as said Ad5 5'ITR.

4. A DNA molecule useful for generating a recombinant adenoviral vector comprising an Ad5 5'ITR with packaging signal, a polylinker, and Ad5 sequence.

5. A DNA molecule of claim 4 wherein said polylinker comprises the restriction enzyme sites for XbaI, XhoI, BglII, EcoRV, NotI, SpeI, SalI, ClaI and BamHI.

6. A DNA molecule comprising an Ad5 5'ITR and an Ad5 3'ITR, a polylinker, and Ad5 sequence.

7. A DNA molecule of claim 6 wherein said polylinker comprises the restriction enzyme sites for XhoI, BglII, EcoRV, NotI, SpeI, SalI and ClaI.

8. A DNA molecule of claim 6 wherein said polylinker comprises the restriction enzyme sites for HindIII, XhoI, BglII, EcoRV, NotI, SpeI, SalI, and ClaI.

9. A method for generating a recombinant adenoviral particle using a shuttle vector selected from the group consisting of GT4117, GT4121, GT4142, and GT4141 consisting of the steps of, in combination:

mixing at room temperature one of said shuttle vectors with a helper plasmid;

incubating the mixture at room temperature;

combining said mixture with a suitable transfection preparation;

applying said mixture in said transfection preparation to a 293 cell;

incubating said 293 cell for a sufficient period of time such that adenoviral particles are generated; and,

purifying said recombinant adenoviral particles.

10. A method for generating a infectious, replication-deficient, recombinant adenoviral particle consisting of the steps of, in combination:

mixing at a temperature from 35°C to 80°C a shuttle vector and a helper plasmid;

combining said mixture with a suitable transfection preparation;

applying said mixture in said transfection preparation to a 293 cell;

incubating said 293 cell for a sufficient period of time such that an adenoviral particle is generated; and,

purifying said recombinant adenoviral particle whereby an infectious, replication-deficient recombinant adenoviral vector is generated.